So, We know that there are stars other than our sun out there. But ever wondered how far away these distant fusion furnaces are? Read on...

We measure the distance from these Stars in a unit of distance called Light-Year. A light year is a distance that Light Travels in 1 year of time.

As we know that Distance = Speed * Time. For a Light Year. The Speed is the speed of light (Approximately 3*10^8 m/s) and Time is 1 year (365.25 Days). So after Multiplying these values, we get 1 Light-Year as approximately 95 * 10^11 Kilometres (or approximately 6 * 10^12 Miles). That's 95 followed by 11 zeroes!!

The closest star to our Sun is a star named 'Alpha Centauri' which is approximately 4 Light-Years away from our solar system. That means whenever we look at Alpha Centauri, we see it as it was 4 years ago, because the light that left that star 4 years ago is just now reaching our eyes (because of the insane distance between us). And the light that's leaving the star right now will reach us 4 years later

Like this, Gazing up at the stars in our night sky practically transforms into a Time Machine where we can see the objects in our night sky as they were years ago.

Some stars are even further than this. A Star named 'Betelgeuse' is approximately 642.5 Light-Years away from Earth. This means that we are seeing that star as it was 642 years ago!! But astronomers have predicted that the star Betelgeuse is running out of fuel and that it'll run out of fuel and explode into a brilliant supernova in a few decades. And as we can only see the star as it was 642 years ago. That means that the star Betelgeuse has already long exploded and died. But we don't know it yet because the light from the explosion hasn't reached us yet. Isn't that fascinating to think about?!
A star that we can so easily see in our night sky may already be long gone

This is how Gazing up at the sky is a journey through both Time and Space